REMARKS

Claims 23-45 are pending in the subject application. By this Amendment, applicants have amended claims 23, 24, 26, 27, 30, 32-38, 40 and 43, canceled claim 31, and added new claims 46-49.

The amendments to claims 26, 27, 32-38, 40 and 43 merely involve grammatical and formatting changes and thus do not raise any issue of new matter. Similarly, no new matter is introduced by the amendments to claims 23, 24 and 30 which are fully supported, *inter alia*, in the specification as follows: Claim 23: page 22, lines 16-21; page 36, line 35 to page 37, line 5; and page 49, line 35 to page 50, line 2; Claim 24: page 10, lines 4-15 and Fig. 6D; page 22, lines 16-21; page 36, line 35 to page 37, line 5; page 49, line 35 to page 50, line 2; and page 54, line 32 to page 55, line 16; and Claim 30: page 16, lines 20-22; original claims 7 and 8.

New claims 46-49 are also fully supported in the specification as filed, and thus also do not raise any issue of new matter. Specifically, support for these new claims may be found, *inter alia*, in the specification as follows: Claim 46: page 22, lines 30-31; page 28, lines 30-31; page 36, lines 23-25; Claim 47: page 22, lines 25-26; page 36, lines 23-25; Claim 48: page 15, line 28 to page 16, line 1; page 22, lines 16-21; page 25, lines 15-16 and 19-20; page 57, lines 15-31; and Claim 49: page 29, lines 12-13; and page 42, lines 7-8. Accordingly, applicants respectfully request that the Examiner enter this Amendment. Upon entry of this Amendment, claims 23-30 and 32-49 will be pending and under examination.

The Claimed Invention

This invention provides methods of reducing HIV-1 viral load in

an HIV-1-infected subject which comprises administering to the subject solely after viral steady state is reached an effective viral load-reducing amount of an IgG antibody which binds to the CCR5 chemokine receptor and inhibits fusion of HIV-1 to CD4+CCR5+ cells, thereby inhibiting repeated infection of the subject's cells and reducing the subject's HIV-1 viral load.

Prior to the invention of applicants' methods, a method of using a decavalent IgM antibody which binds to the CCR5 chemokine receptor to prophylactically treat a subject in an effort to reduce the subject's HIV-1 viral load had been disclosed. This prior art method involves administering the IgM antibody to the subject prior to and within two days after exposure of the subject to HIV-1, i.e., before the establishment of a viral steady state. However, no anti-CCR5 antibodies, and in particular no IgG antibodies, had been used therapeutically to reduce viral load from steady state levels in a subject chronically infected with HIV-1.

Rejections under 35 U.S.C. §112, first paragraph

The Examiner rejected claims 26 and 27 under 35 U.S.C. 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner stated that it is apparent that specific monoclonal antibodies are required to practice the claimed invention. The Examiner further stated that, as such, these monoclonal antibodies must be readily available or obtainable by a repeatable method set forth in the specification, or otherwise known and readily available to the public. The Examiner also stated that if they are not so obtainable or available, the requirements of 35.U.S.C. 112, first paragraph, may be satisfied by an enabling deposit of antibodies.

The Examiner noted that applicants have deposited the antibodies but that there is no indication in the specification as to public availability. The Examiner stated that a deposit at a recognized depository may, therefore, be made for enablement purposes.

The Examiner stated that if a deposit has been made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants or statement by an attorney of record over his or her signature and registration number, stating that the instant invention will be irrevocably and without restriction' released to the public upon the issuance of a patent, would satisfy the deposit requirement.

In response, applicants affirm that hybridomas secreting the antibodies claimed in the subject invention were deposited on December 2, 1998, pursuant to the Budapest Treaty, with the Patent Culture Depository of the American Type Culture Collection (ATCC) under ATCC Accession Nos. HB-12605 (PA8), HB-12606 (PA9), HB-12607 (PA10), HB-12608 (PA11), HB-12609 (PA12) and HB-12610 (PA14). For the Examiner's convenience, applicants attach hereto as **Exhibit A** a copy of the December 29, 1998 Budapest Treaty Deposit Receipt and Viability Statement for the PA 10 hybridoma, and a copy of the December 30, 1998 Budapest Treaty Deposit Receipt and Viability Statement for the PA 8, 9, 11, 12 and 14 hybridomas.

Consistent with the requirements of C.F.R. 1.808, applicants' undersigned attorney states that the deposit of the antibodies was made under the terms of the Budapest Treaty, and that all restrictions on the availability to the public of the materials deposited under ATCC Nos. HB-12605, HB-12606, HB-12607, HB-12608, HB-12609 and HB-12610 will be irrevocably removed upon the granting of a patent from the subject application.

In view of the foregoing, applicants request that the Examiner withdraw this 35 U.S.C. §112, first paragraph rejection.

Rejections under 35 U.S.C. §103(a)

The Examiner maintained his rejection of claims 23-25 and 28-45 under 35 U.S.C. §103(a) as allegedly obvious over Vila-Coro et al. (PNAS 3/00) for the reasons that previous claims 1-22 were rejected under this statute.

The Examiner stated that applicants' arguments have been fully considered but are not deemed to be persuasive. The Examiner noted applicants' argument with regard to claim 23 that the Vila-Coro reference describes a prophylactic treatment which involves treating a group of SCID mice prior to infection and attainment of a viral steady-state whereas claim 23 specifically recites treatment solely after a viral steady state is reached. The Examiner stated that applicants point to Poignard and Gauduin to show that antibodies may be useful in preventing infection while providing a limited degree of protection, or none at all, when administered after infection has taken place. The Examiner also stated that applicants note that Poignard disclosed the use of MAb b12 purportedly for use in the Vila-Coro reference. The Examiner further stated that Gauduin also teaches the use of this same MAb. The Examiner noted applicants' argument that these references indicate that the antibody is effective only when it is administered no more than several hours after viral exposure.

The Examiner stated, however, that applicant's comments concerning the b12 MAb are neither understood nor convincing because the antibody of Poignard and Gauduin is directed to an epitope of HIV gp120 (citing Gauduin, p.1389, last paragraph of the second column), not an epitope of [a] chemokine [receptor] as in the instant claims and in Vila-Coro. The Examiner concluded

that applicants' comments are therefore not relevant to the rejection.

In addition, the Examiner stated that applicants reiterate previously proffered arguments at the bottom of page 22 bridging to the top of page 23 of applicants' August 21, 2003 Amendment. The Examiner also stated that these arguments are not convincing for reasons of record.

In response, applicants respectfully traverse the rejection of claims 23-25 and 28-45 as obvious over Vila-Coro et al. ("Vila-Coro"), and maintain that the Examiner has failed to establish a *prima facie* case of obviousness. Pursuant to 35 U.S.C. §103(a):

> [a] patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

According to M.P.E.P. §2142, the Examiner bears the initial burden of factually establishing a *prima facie* case of obviousness, and to do so, three basic criteria must be met: 1) there must be some suggestion or motivation, either in the reference itself or in the knowledge of a skilled artisan, to modify the reference; 2) there must be a reasonable expectation of success; and 3) the prior art reference must teach or suggest all the claim limitations.

Applicants maintain that the Examiner fails to satisfy the second and third prongs of the requirements for establishing a *prima facie* case of obviousness. In this regard, applicants note that Vila-Coro, in combination with the prior art, does not provide

any expectation of success in using applicants' therapeutic methods based on Vila-Coro's demonstration of the prophylactic efficacy of an anti-CCR5 antibody in preventing HIV-1 infection. On the contrary, the prior art clearly indicates that the prophylactic efficacy of an anti-HIV-1 antibody is not predictive of the therapeutic efficacy of that antibody against an established HIV-1 infection. Moreover, applicants note that Vila-Coro does not teach the use of an IgG antibody, which element is recited in independent claims 23 and 24, as amended, and claim 48. A more detailed discussion of these points is set forth below.

Regarding the lack of any expectation of success in using applicants' therapeutic methods, applicants note Vila-Coro's experimental evidence that prophylactic administration of an anti-CCR5 antibody "efficiently prevents HIV-1 infection by inducing receptor dimerization" (see Abstract). The prophylactic method used by Vila-Coro involved administering an anti-CCR5 IgM antibody, CCR5-02, to SCID-hu-PBMC mice four hours prior to, and on the next two days after, HIV-1 exposure but well before steady state levels of HIV-1 were attained. By contrast, applicants disclose a therapeutic method comprising administering an IgG anti-CCR5 antibody to a chronically HIV-1-infected subject solely after a steady state level of HIV-1 virus has been attained.

In their previous Amendment filed August 21, 2003, applicants directed the Examiner's attention to two prior art references, Gauduin et al. (1997) Nature Medicine 3: 1389-93 ("Gauduin") and Poignard et al. (1999) Immunity 10: 431-8 ("Poignard"). Gauduin and Poignard both disclose a potently neutralizing anti-HIV-1 antibody that, like Vila-Coro's CCR5 antibody, potently protects against infection with HIV-1 if administered at the time of, or up to several (6-24) hours after, viral challenge. Poignard demonstrates, however, that the same antibody affords little or

no therapeutic benefit in subjects in which the HIV-1 viral load had reached steady state levels prior to administration of the antibody. Applicants maintain that a skilled practitioner, armed with the knowledge that an anti-HIV-1 antibody that completely protects against acute HIV-1 infection may be completely ineffective against chronic HIV-1 infection, could not have predicted and would have had no reasonable expectation of success, based on Vila-Coro's teachings, that an anti-CCR5 antibody would prove efficacious in reducing the viral load in chronically HIV-1-infected subjects with steady state HIV-1 levels.

Applicant notes the Examiner's stated position that this argument is unconvincing and irrelevant because the antibody of Poignard and Gauduin is directed to an epitope of HIV-1 gp120 whereas the antibodies disclosed in Vila-Coro and recited in the instant claims are directed to an epitope of the CCR5 chemokine receptor. However, applicants respectfully disagree with the Examiner's position. Applicants submit that the identity of the antibodies is secondary to the general principle taught by the prior art references. Indeed, Poignard's results on the effect of HIV-1 neutralizing antibodies in subjects with steady state HIV-1 levels are not limited to a particular antibody. Instead, these results "show that passive administration of either a single neutralizing human mAb or of a cocktail of three such Abs has minimal effect on the control of an ongoing HIV-1 infection in the hu-PBL-SCID mouse model" (page 434, first paragraph of the "Discussion" in Poignard; emphasis added). Thus, the more salient principle taught by Gauduin and Poignard is clearly that the prophylactic efficacy of an anti-HIV-1 antibody in protecting against acute HIV-1 infection, (e.g., as demonstrated by Vila-Coro) is not predictive of therapeutic efficacy against a chronic HIV-1 infection, characterized by steady state viral levels, as claimed in the subject invention.

With regards to the requirement that the prior art reference must teach or suggest all the claim limitations, applicants note that the anti-CCR5 receptor monoclonal antibody used by Vila-Coro is an IgM antibody (evident from the use of mIgM as an isotype-matched control in Figs. 1-5 in Vila-Coro). By contrast, applicants' anti-CCR5 antibodies belong to the IgG isotype (see the subject specification at, *inter alia*, page 49, line 35 to page 50, line 2). The use of IgG antibodies, compared to IgM antibodies, is advantageous since, being bivalent, IgG antibodies encounter less steric hindrance in binding to epitopes than do the pentavalent IgM antibodies. IgG antibodies are also easier to produce in large quantities than IgM isotypes. Applicants maintain that, in any event, the utilization of IgG molecules in the methods of the subject invention is a claim element that is not present in Vila-Coro.

Applicants therefore respectfully submit that the Examiner's rejection of claims 23-25 and 28-45 as obvious over Vila-Coro is without merit since the Examiner has failed to establish a *prima facie* case of obviousness.

The Examiner also stated that with regard to claim 24, the limitation of inhibiting binding of HIV-1_{JR-FL} gp120 to CCR5 does not distinguish over the prior art. The Examiner further stated that a method that treats "HIV" infection would be expected to treat HIV-1_{JR-FL} because this particular strain uses the same mechanism of infection, namely CCR5-mediated binding, to enter cells. The Examiner also stated that it is known in the art that this strain is CCR5-tropic and, absent evidence to the contrary, would be expected to function vis-à-vis the receptor mechanism as any other "HIV." The Examiner concluded that the instant invention is thus obvious over Vila-Coro.

In response, applicants respectfully traverse. Applicants direct

the Examiner's attention to the disclosures by Vila-Coro that the anti-CCR5 antibody, CCR5-02, which blocks acute HIV-1 infection, does not affect the binding of HIV-1_{JR-FL} gp120 to CCR5-transiently transfected HEK-293 cells (see, *inter alia*, the Abstract in Vila-Coro; page 3388, col. 2, second paragraph; page 3390, bottom of col. 1 bridging col. 2; page 3392, col. 1, last paragraph; and page 3389, col. 1, second full paragraph). These disclosures, based on experimental data, directly contradict the Examiner's assertion that "a method that treats 'HIV' infection would be expected to treat HIV-1_{JR-FL} because this particular strain uses the same mechanism of infection, namely CCR5-mediated binding, to enter cells." By contrast to Vila-Coro's CCR5-02 antibody, the subject specification teaches that the antibodies of applicants' invention do inhibit binding of HIV-1_{JR-FL} gp120 to CCR5 (see, *inter alia*, page 10, lines 4-15 and Fig. 6D; and page 54, line 32 to page 55, line 16). Applicants maintain, therefore, that the limitation of inhibiting binding of HIV-1_{JR-FL} gp120 to CCR5 located on the surface of a CCR5+ cell, recited in claim 24, as amended, clearly distinguishes the subject invention over the cited art.

In summary, applicants contend that their method of reducing viral load in an HIV-1-infected subject, comprising administering an anti-CCR5 IgG antibody to the subject solely after viral steady state is reached, is not obvious over Vila-Coro's method of prophylactically treating a subject by administering an anti-CCR5 IgM antibody to the subject prior to, or shortly after, HIV-1 exposure but well before steady state levels of HIV-1 are attained. Since the cited art fails to teach all elements of their invention, and provides no reasonable expectation of success in modifying the prophylactic method of Vila-Coro to a therapeutic method as claimed in the subject application, applicants maintain that the Examiner has failed to set forth a *prima facie* case of obviousness. Accordingly, applicants

respectfully submit that the 35 U.S.C. §103(a) rejections should be withdrawn.

In view of the remarks made hereinabove, applicants respectfully request that the Examiner reconsider and withdraw the claim rejections set forth in the February 23, 2004 Office Action, and earnestly solicit allowance of all claims pending in the subject application.

Supplemental Information Disclosure Statement

This Supplemental Information Disclosure Statement is submitted under 37 C.F.R. §1.97(c)(2) to supplement the Information Disclosure Statement filed on December 26, 2002 in connection with the subject application.

In accordance with their duty of disclosure under 37 C.F.R. §1.56, applicants direct the Examiner's attention to the following references which are listed on the attached Form PTO-1449 (**Exhibit B**), and some of which are attached hereto as **Exhibits 1-36**:

1. U.S. Patent No. 6,107,019, issued August 22, 2000 to G.P. Allaway et al. (**Exhibit 1**);

2. U.S. Patent No. 6,344,545 B1, issued February 5, 2002 to G.P. Allaway et al. (**Exhibit 2**);

3. U.S. Patent No. 6,548,636 B2, issued April 15, 2003 to T. Dragic and W.C. Olson (**Exhibit 3**);

4. Pending claims in G.P. Allaway et al., U.S. Serial No. 09/888,938, filed June 25, 2001 (**Exhibit 4**);

5. Allowed claims in T. Dragic and W.C. Olson, U.S. Serial No. 10/323,314, filed December 19, 2002 (**Exhibit 5**);

6. G.P. Allaway et al., U.S. Serial No. 08/627,684, filed April 2, 1996 (now abandoned) (**Exhibit 6**);

7. G.P. Allaway et al., U.S. Provisional Application No. 60/014,532, filed April 2, 1996;

8. G.P. Allaway et al., U.S. Serial No. 08/663,616, filed June 14, 1996 (now abandoned) (**Exhibit 7**);

9. G.P. Allaway et al., U.S. Provisional Application No. 60/019,715, filed June 14, 1996;

10. G.P. Allaway et al., U.S. Serial No. 08/673,682, filed June 25, 1996 (now abandoned) (**Exhibit 8**);

11. G.P. Allaway et al., U.S. Serial No. 08/665,090, filed June 14, 1996 (now abandoned) (**Exhibit 9**);

12. G.P. Allaway et al., U.S. Provisional Application No. 60/019,941, filed June 14, 1996;

13. G.P. Allaway et al., U.S. Serial No. 08/874,570, filed June 13, 1997 (now abandoned) (**Exhibit 10**);

14. G.P. Allaway et al., U.S. Serial No. 08/874,618, filed June 13, 1997 (now abandoned) (**Exhibit 11**);

15. Pending claims in G.P. Allaway et al., U.S. Serial No. 09/724,105, filed November 28, 2000 (**Exhibit 12**);

16. Pending claims in G.P. Allaway et al., U.S. Serial No. 09/852,238, filed May 9, 2001 (**Exhibit 13**);

17. W.C. Olson and P.J. Maddon, U.S. Serial No. 09/212,793, filed December 16, 1998 (now abandoned);

18. W.C. Olson and P.J. Maddon, U.S. Provisional Application No. 60/112,532, filed December 16, 1998;

19. W.C. Olson and P.J. Maddon, U.S. Serial No. 09/464,902,

filed December 16, 1999 (**Exhibit 14**);

20. W.C. Olson and P.J. Maddon, U.S. Serial No. 09/594,983, filed June 15, 2000 (**Exhibit 15**);

21. W.C. Olson et al., U.S. Serial No.09/663,219, filed September 15, 2000 (**Exhibit 16**);

22. W.C. Olson et al., U.S. Provisional Application No. 60/266,738, filed February 6, 2001 (**Exhibit 17**);

23. W.C. Olson and P.J. Maddon, U.S. Provisional Application No. 60/282,380, filed April 6, 2001 (**Exhibit 18**);

24. W.C. Olson et al., U.S. Patent Application Publication No. 2002/0106374 A1, published August 8, 2002 (**Exhibit 19**);

25. W.C. Olson and P.J. Maddon, U.S. Serial No. 10/081,128, filed February 22, 2002 (now abandoned) (**Exhibit 20**);

26. W.C. Olson and P.J. Maddon, U.S. Provisional Application No. 60/358,886, filed February 22, 2002;

27. William C. Olson and Paul J. Maddon, U.S. Publication No. 2003/0044411 A1, published March 6, 2003 (**Exhibit 21**);

28. T. Dragic and W.C. Olson, U.S. Patent Application Publication No. 2003/0092632 A1, published May 15, 2003 (**Exhibit 22**);

29. W.C. Olson et al., U.S. Patent Application Publication No. 2003/0228306 A1, published December 11, 2003 (**Exhibit 23**);

30. Pending claims in W.C. Olson and P.J. Maddon, U.S. Serial

No. 10/763,545, filed January 23, 2004 (**Exhibit 24**);

31. Pending claims in G.P. Allaway et al., U.S. Serial No. 09/460,216, filed December 13, 1999 (**Exhibit 25**);

32. PCT International Application Publication No. WO 96/41020, published December 19, 1996 (**Exhibit 26**);

33. PCT International Application Publication No. WO 97/26009, published July 24, 1997 (**Exhibit 27**);

34. PCT International Application Publication No. WO 97/37005, published October 27, 1997 (**Exhibit 28**);

35. PCT International Application Publication No. WO 97/47319, published December 18, 1997 (**Exhibit 29**);

36. PCT International Application Publication No. WO 98/56421, published December 17, 1998 (**Exhibit 30**);

37. PCT International Application Publication No. WO 00/35409, published June 22, 2000 (**Exhibit 31**);

38. PCT International Application Publication No. WO 01/64710, published September 7, 2001 (**Exhibit 32**);

39. PCT International Application Publication No. WO 02/22077, published March 21, 2002 (**Exhibit 33**);

40. PCT International Application Publication No. WO 02/068608, published September 6, 2002 (**Exhibit 34**);

41. PCT International Application Publication No. WO 02/083172,

published October 24, 2002 (**Exhibit 35**); and

42. PCT International Application Publication No. WO 03/072766, published September 4, 2003 (**Exhibit 36**).

The Examiner is respectfully requested to make these references of record in the present application by initialing and returning a copy of the enclosed Form PTO 1449.

37 C.F.R. §1.98(a)(2)(iii) provides that an Information Disclosure Statement shall include, for each cited pending U.S. application, a legible copy of the application specification including the claims and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion. Under 37 C.F.R. §1.98(c), when the disclosures of two or more patents or publications listed in an Information Disclosure Statement are substantively cumulative, a copy of one of the patents or publications may be submitted without copies of the other patents or publications, provided it is stated that these other patents or publications are cumulative. In accordance with 37 C.F.R. §1.98(c), copies of some of the references listed above are not submitted herewith as they are cumulative.

Specifically, U.S. Serial No. 09/888,938, filed June 25, 2001, is a continuation of U.S. Serial No. 10/831,823, filed April 2, 1997, which issued as U.S. Patent No. 6,344,545 B1 (reference 2). Therefore, a copy of U.S. Serial No. 09/888,938 is not attached hereto. However, in accordance with 37 C.F.R. §1.98(a)(2)(iii), a copy of the claims pending in U.S. Serial No. 09/888,938 is attached hereto as Exhibit 4.

U.S. Serial No. 10/323,314, filed December 19, 2002 is a continuation of U.S. Serial No. 09/796,202, filed February 28,

2001, which issued as U.S. Patent No. 6,548,636 B2 (reference 3). Therefore, a copy of U.S. Serial No. 10/323,314 is not attached hereto. However, in accordance with 37 C.F.R. §1.98(a)(2)(iii), a copy of the claims allowed in U.S. Serial No. 10/323,314 is attached hereto as Exhibit 5.

U.S. Serial No. 09/852,238, filed May 9, 2001 and published May 6, 2004 as U.S. Patent Application Publication No. 2004/0086528 A1, is a continuation of 09/724,105, filed November 28, 2000, which is a continuation of U.S. Serial No. 08/874,618, filed June 13, 1997 (reference 14). Therefore, copies of U.S. Serial Nos. 09/724,105 and 09/852,238 are attached hereto. However, in accordance with 37 C.F.R. §1.98(a)(2)(iii), copies of the claims pending in U.S. Serial Nos. 09/724,105 and 09/852,238 are attached hereto as Exhibits 12 and 13, respectively.

U.S. Serial No. 10/763,545, filed January 23, 2004, is a continuation U.S. Serial No. 09/594,983, filed June 15, 2000 (reference 20). Therefore, a copy of U.S. Serial No. 10/763,545 is not attached hereto. However, in accordance with 37 C.F.R. §1.98(a)(2)(iii), a copy of the claims pending in U.S. Serial No. 10/763,545 is attached hereto as Exhibit 24.

U.S. Serial No. 09/460,216, filed December 13, 1999, is a national stage application of PCT International Application Publication No. WO 98/56421, published December 17, 1998 (reference 36). Therefore, a copy of U.S. Serial No. 09/460,216 is not attached hereto. However, in accordance with 37 C.F.R. §1.98(a)(2)(iii), a copy of the claims pending in U.S. Serial No. 09/460,216 is attached hereto as Exhibit 25.

References 6 and 7 are cumulative to each other since each contains an identical disclosure. Therefore, a copy of reference 7 is not enclosed.

References 8 and 9 are cumulative to each other since each contains an identical disclosure. Therefore, a copy of reference 9 is not enclosed.

References 11 and 12 are cumulative to each other since each contains an identical disclosure. Therefore, a copy of reference 12 is not enclosed.

References 17, 18 and 19 are cumulative to each other since each contains an identical disclosure except that reference 19 contains an additional paragraph at the beginning of the application claiming the benefit of an earlier application, U.S. Provisional Application No. 60/112,532 (reference 18), and also provides the ATCC Accession Number for the PA10 antibody, which Accession Number is not provided in references 17 and 18. Therefore, copies of references 17 and 18 are not enclosed.

References 25 and 26 are cumulative to each other since each contains an identical disclosure. Therefore, a copy of reference 26 is not enclosed.

If a telephone conference would be of assistance in advancing the prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

Pursuant to 37 C.F.R. §1.97(c)(2) and 1.17(p), a fee of one hundred and eighty dollars ($180.00) is required for filing the enclosed Supplemental Information Disclosure Statement. A fee of three hundred and eighty-two dollars ($382.00) is also deemed necessary in connection with the filing of additional claims and multiple dependent claims in this Amendment. Finally, a fee of fifty-five dollars ($55.00) is required for a one-month extension of time for responding to the February 23, 2004 Office Action.

Accordingly, a check in the total amount of SIX HUNDRED AND SEVENTEEN DOLLARS ($617.00) is enclosed. However, if any additional fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

6/23/04

John P. White
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Date